

Product Development Overview

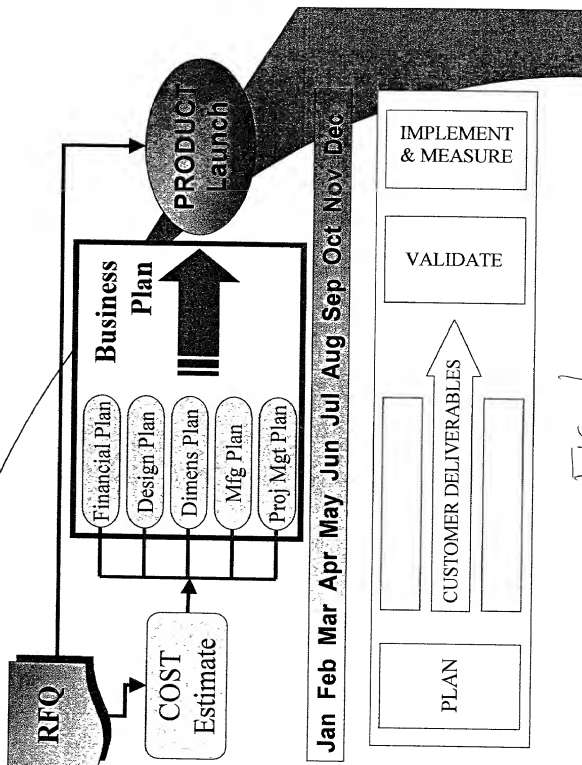
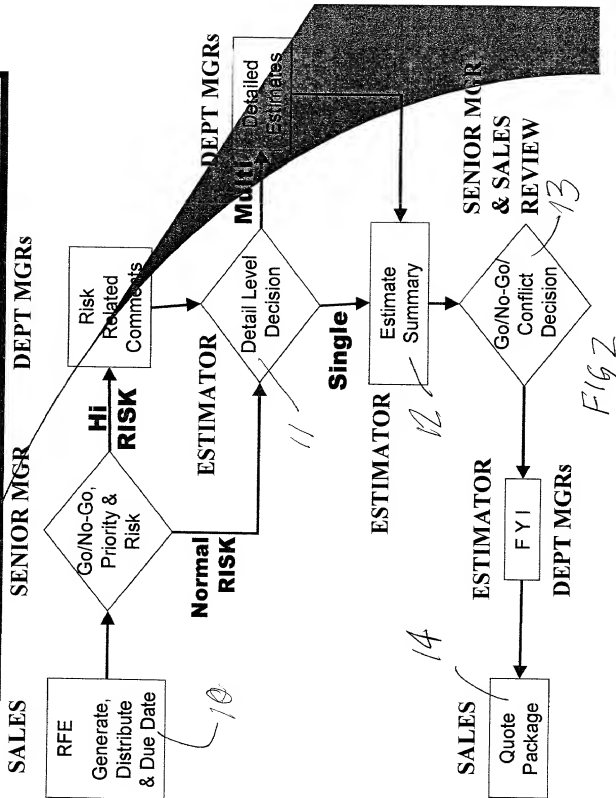


Fig 1

RFQ Workflow Process



My Work Queue

- ☐ RFE
- ☐ Alerts
- ☐ FY Approvals
- ☐ FY Connect
- ☐ FY Estimate
- ☐ FY Information
- ☐ FY Revision
- ☐ FY Pricing
- ☐ FY Quote
- ☐ FY Reorder
- ☐ Alerts
- ☐ Recycle Bin
- ☐ Status
- ☐ Follow-up
- ☐ Administration
- ☐ Workflow History

Request for Estimate

00.1.1. General Information

Date Quote Due Customer: 08/2/2001 ☐ Date Created: 1/19/2001 2:15 PM
Salesperson: sales ☐ RFE #
RFE Title:
RFE Originator: sales

00.1.2. Customer Information

☒ Bottom-up Quote ☐ Cost to Charge
Customer:
Buyer:
Title: Name: Phone:

00.1.3. Product Information

Part Name:
Customer Part #:
Internal Part #:
Product Description:
Product Design: ☒ NEW ☐ MODIFIED ☐ CARRYOVER
Model Year:
Vehicle Model:

After filling up this form
Originator Can Save this RFE
as Draft or Send to a manager
for his decision on RFE.

FIG 4

109777 5126660

- My Work Queue
- RFE
- Drafts
- Sent
- FY Approval
- FY Comment
- FY Estimate
- FY Information
- FY Revision
- FY Quote
- Projects
- Reminders
- Alerts
- Recycle Bin
- Statistics
- Follow up
- Administration
- Workflow History

RFE_AUTO_ID : 2 Mercedes headlamp wiper for 2008 M-class

Sending RFE to Manager for Approval

Send To: Approval Manager

Due Date for the Manager's Response:

Comments:

SEND

Click on 'S' to send this RFE to Manager for Approval. This opens current window

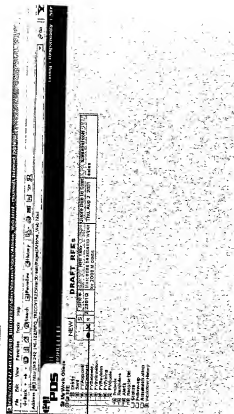


Fig 5

My Work Queue

☐ RFE

☐ Drafts

☐ FYApproval

☐ FYRevision

☐ FYComment

☐ FYInformation

☐ FYEstimate

☐ FYPricing

☐ FYQuote

☐ Alerts

☐ Recycle Bin

☐ Status

☐ Follow-up

Request for Estimate

00.1.1. General Information

Date Quote Due Customer: 7/9/2001 Date Created: 6/22/2001 5:41 PM
 Salesperson: sales RFE Originator: sales

RFE # 235410

RFE Title: Mercedes headlamp wiper for 2008 M-class

☒ Bottom-up Quote ☐ Cost to Charge

00.1.2. Customer Information

Customer: Mercedes

Title: Name: Phone:

Buyer: Jacques Clausen 654.235.3589

Project Manager: Thomas Kinder 365.564.5065 x25

00.1.3. Product Information

Part Name: Headlamp Wiper

Customer Part # 24651

Fig. 6

- My Work Queue
- RFE
- Drafts
- Sent
- FY Approval
- FY Comment
- FY Estimate
- FY Information
- FY Revision
- FY Pricing
- FY Quote
- Projects
- Reminders
- Alerts
- Recycle Bin
- Status
- Follow-up
- Administration
- Workflow History

From: sales
Message: please move this quickly

Click on
'A' to
make
decision.
It opens
current
window

☐ Accept, normal risk
 ☐ Reject, revise and resend

☐ Accept, high risk
 ☐ Cancel, do not pursue

Response Due Date: 2001-07-20 or Business Days

Comments:

Reviews for Fiction: The disabled

Manager can View the RFE details here.

ate Created: 7/19/2001 3:28 PM
EE Originator: sales

for 2008 M-class
to Change

Phone _____

854 235 3589

Fig 7

- My Work Queue**
- RFE
 - Drafts
 - Set
 - FV Approval
 - FV Comment
 - FV Estimate
 - FV Information
 - FV Revision
 - FV Quote
 - FV Specs
 - FV Reports
 - FV Alerts
 - Recycle Bin
 - Status
 - Follow-up
 - Administration
 - Workflow History

Priority **1** Response Due Date: 2001-07-20 or Business Days 1

Comments: good opportunity

Select Team Members if the RFE is approved

Estimator

Program Manager

Timing / Scheduling Manager

Business Strategist

Human Resource Manager

estimator

program

timing

strategy

transfer

Business / Financial Manager

Product Engineer

Manufacturing Engineer

Supplier Relations

finance

product

manufacturing

supplier

SAVE

SEND

CANCEL

Request for Estimate (save disabled)

001.1. General Information

Date Quote Due Customer: 8/2/2001 Date Created: 7/19/2001 3:28 PM
 Salesperson: sales RFE Originator: sales
 RFE # 2351Q

RFE Title: Mercedes headlamp wiper for 2000 M-class
 Bottom-up Quote Cost to Change

001.2. Customer Information

Customer: Mercedes

Title: Name: Phone:

FIG 8

My Work Queue

- ☒ RFE
- ☐ Drafts
- ☐ Sent
- ☐ FY Approval
- ☐ FY Comment
- ☐ FY Estimate
- ☐ FY Information
- ☐ FY Revision
- ☐ FY Pricing
- ☐ FY Quote
- ☐ Projects
- ☐ Reminders
- ☐ Status
- ☐ Follow-up
- ☐ Administration
- ☐ Workflow History

For Your ESTIMATE

<input checked="" type="radio"/> E	<input type="radio"/> O	RFE #	RFE Title	Action Due Date	Sender	C
<input checked="" type="radio"/> E	<input type="radio"/> O	RFQ325B	Florida Front Wiper Assembly for 2007MK Sport Utility	Fri, Jul 20, 2007	manager, Manager	C
<input checked="" type="radio"/> E	<input type="radio"/> O	2351	Mercedes headlamp wiper for 2006 M-class	Fri, Jul 20, 2007	manager, Manager	C

If the RFE is approved by the Manager, next request goes to Estimator for estimation. Logon as Estimator to see the request. 'FY Estimate' lists all the requests for Estimate. Click on blue ball to make a selection.

F169

Estimate Program Costs – Level 1

COST Estimating Worksheet

RFE # R3 UPDATE

0.1 Cost Estimate
 0.1.1 Worksheet
 0.2 Estimate Admin
 0.2.1 Work Center List
 0.2.2 Material Stock List

Engineering Costs

BOM Tooling and Piece Cost

Part No.	Part Name	Molds & Dies	Racks	Fixtures	Secondaries
323222	Rear Window Wiper	2,333	6,558	30,000	0
3221	Arm	0	0	0	0
2200	Blade	0	0	0	0
33664	Washer hose	0	0	0	0
4448	Hose clamp	0	0	0	0
33664	Hose insert	0	0	0	0

Program Mgmt \$25,000.00 Product Design \$35,000.00 Dimensional Engrg \$5,000.00 MFG Tooling Design \$20,000.00 MFG Process Design \$10,000.00

F1510

Engineering Cost Drill Down – Level 2

Product Design Engineering

R3 UPDATE SAVE REVERT

NUMBER OF ROWS TO ADD: ADD ROWS

Material	Hours	Rate	Labor	Burden	Task
	40	\$65.00	\$2,600	\$	Collect design data
	40	\$75.00	\$3,000	\$	Get requirements
	200	\$75.00	\$15,000	\$	Create cad models
	60	\$65.00	\$3,900	\$	Create prototypes
	50	\$50.00	\$2,500	\$	FEA analysis
			\$8,000	\$27,000	\$0
Grand TOTAL*			\$35,000		

Product Design Cost

Fig 11

Piece Cost Drill Down - Level 2

☒ 0.1 Cost Estimate
☐ 0.1 Worksheet
☐ 0.2 Estimate Admin

Subcontract: n/a
 Req Level: n/a
 R/O: n/a

Cost Type: PIE
 Worcenter Rate
 Process Time

lbs logs ESTIMATE: n/a

Process Description

Workcenter

Process	Process Description	Workcenter	Cost per Hour	Postfix	Process Minutes	Cost
40	cut raw material to size	M327 ACE CUT-OFF	63.70	000201	5	3.18
40	machine to print	M278 Cincinnati/Mecon MC4000	24.00	000201	10	2.40
						5.58

Cost Details, if any, are specified above.

Sheet metal 1020 1/8" x 48" x 96" 1 QTY=1 StockUnitCost: \$ 2.50 StockUnitsUsed: 1 \$ 2.50

Sheet metal 1020 1/8" x 48" x 96" 1 QTY=1 StockUnitCost: \$ 60.00 StockUnitsUsed: 1 \$ 60.00

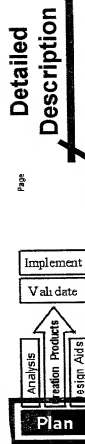
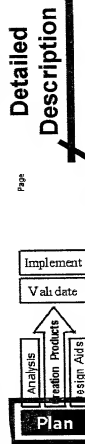
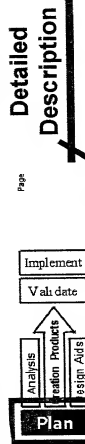
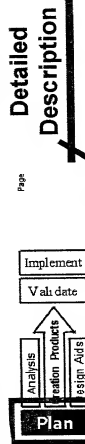
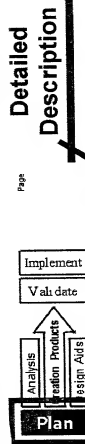
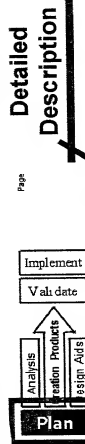
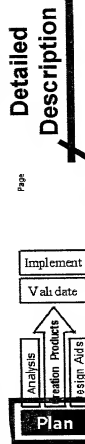
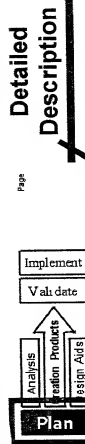
UnitCost: \$ 30.00 UnitUsed: 1 \$ 30.00

TOTAL ESTIMATE: 12.88

Piece Cost

FIG 12

Business Plan Drill Down – Level 3

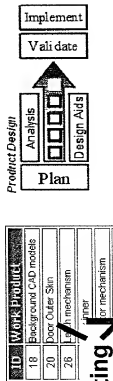


CRITICALITY	RISK RATING	ISSUE	STATUS	DATE	BY	REMARKS
High	High	Total vehicle weight is critical to overall fuel economy.	Open			
Medium	Medium	Door assembly mass must not exceed 130 kg	Closed			
Medium	Medium	Outer skin should use high-strength low alloy steel.	Closed			
Medium	Medium	Side impact must meet federal safety standards for 2005 model year.	Closed			
Medium	Medium		Closed			
Medium	Medium		Closed			

Brainstorming Switch

Fig 13

Business Plan Drill Down – Level 3



Budgeting

Budget, Timing & Resource Worksheet

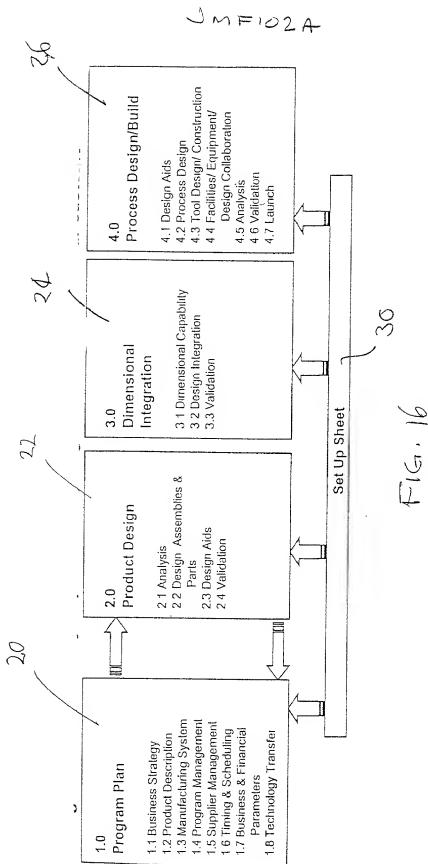
Product Design

Page ID: 2.0

Door Outer Skin

Year	Qtr	Material	Labor	Burden	Notes
2000	Q1				
	Q2				
Q3	*	\$10,000	\$2,000		Fit surface to styling data
Q4		\$5,000	\$600		Smooth surface

FIG 15



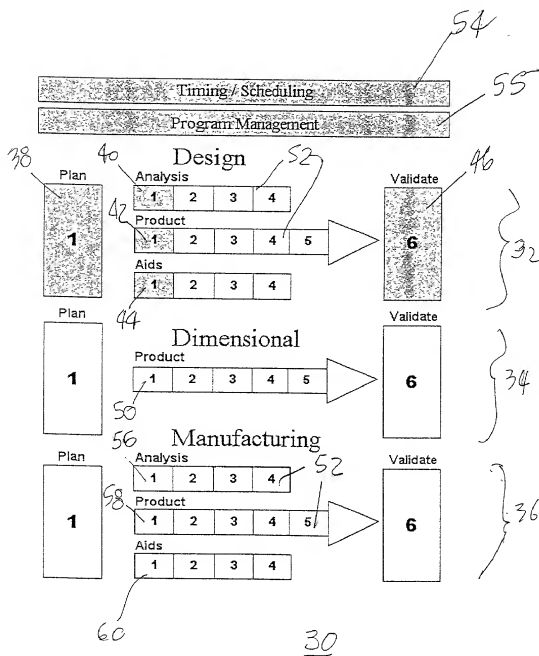


FIG. 2/17

Design Product

Major Review	Work Products	Start	Finish	Duration	Man. Hours	Skill Level	Additional Product Description (optional)
SS-9100							

* Enter Totals for All Products Listed Above

	2000				2001				2002				2003			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Material																
Labor																
Burden																

42

FIG. 20

Timing / Scheduling

Date

Customer Events

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Production Start

Major Reviews (arrow chart review dates)

1	_____	01/01/00	Program Start
1	_____	06/01/00	Product, Aids, Analysis - 1
2	_____	_____	Product, Aids, Analysis - 2
3	_____	_____	Product, Aids, Analysis - 3
4	_____	_____	Product, Aids, Analysis - 4
5	_____	_____	Product - 5
6	_____	_____	Validation
7	_____	_____	Launch

FIG. 21

[illegible]

1997

Fig #22

Plan

12/24/91

FIG ~~22~~ 23

Major Tasking	Work Product	Start	Finish	Duration	Man-hour	Skill Level	Additional Product Description (optional)
05/01/02							

* Error Totals for All Products Listed Above

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FIG ~~23~~ 24

Design Product

Major Review	Work Products	Start	Finish	Duration	Max. hours	Skill Level	Additional Product Description (optional)
06-01-06							

* Enter Totals for All Products Listed Above

	2000				2001				2002				2003			
Material	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Labor																
Burden																

PAGE 1

PAGE 1

FIG 25

Validate

Major Review	Work Products	Start	Finish	Duration	Max. hours	Skill Level	Additional Product Description (optional)
01-06-00							

* Enter Totals for All Products Listed Above

	2000				2001				2002				2003			
Material	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Labor																
Burden																

PAGE 1

PAGE 1

FIG 26

BUDGET SUMMARY BY YEAR

	Year1	Year2	Year3	Year4		2000	2001	2002	2003
Material	\$15.00	\$107.01	\$2.00	\$0.00	Material	\$45,668.00	\$5,211.00	\$8.00	\$4.00
Labor	\$4,783.00	\$16.00	\$0.00	\$0.00	Labor	\$22,473.00	\$57,200.00	\$18.00	\$12.00
Burden	\$152,326.00	\$42,541.00	\$8.00	\$0.00	Burden	\$25.00	\$12.00	\$24.00	\$0.00
Total	\$162,124.00	\$149,559.00	\$10.00	\$0.00	Total	\$68,166.00	\$162,423.00	\$50.00	\$16.00
	Year1	Year2	Year3	Year4		Year1	Year2	Year3	Year4
Material					Material				
Labor					Labor				
Burden					Burden				
Total					Total				
					CANCEL				

K16 ~~22~~ 27

BUDGET PERFORMANCE

	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
Material	\$47.00	\$40.00	\$5.00	\$7.00	\$45,606.00		\$8.00	
Labor	\$4.00	\$5.00	\$7,413.00	\$8,000.00	\$5,525.00		\$6,521.00	
Burden	\$9.00		\$4.00	\$1.00	\$6.00			
Total	\$60.00	\$45.00	\$14,223.00	\$16,000.00	\$54,930.00	\$5,000.00	\$6,526.00	\$6,000.00
Difference:		\$15.00		\$585.00		\$54,137.00		\$6,546.00

	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
Material								
Labor								
Burden								
Total								

	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
Material								
Labor								
Burden								
Total								

	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
Material								
Labor								
Burden								
Total								
						CANOE		

FIG ~~B~~ 28

Cost Summary Business Plan

2 Databases
File Edit View

PDS
TECHNOLOGY

SSR Track

BOM | SBRS

< no selection >

Timing | Responsibility | Site Map | Home

setup | plan | product | dimensional mfg

☐ Level-1 Setup

☒ Level-2 Setup

☐ 1 Program Management

☐ 2 Product Design

☐ 3 Dimensional Design

☐ 4 Mfg. Design Build

☐ 5 Putting it Together

☐ 6 Summary Reports

Total Program Summary

☐ Total Budget

☐ Total Expenses

☐ Total Resources

PRODUCT DESIGN	Grand Total	2000	2001	2002	2003
Plan	\$ 12,000	\$ 12,000	\$ 0	\$ 0	\$ 0
Core Products	\$ 64,800	\$ 21,300	\$ 33,500	\$ 0	\$ 0
Analysis + Design Aids	\$ 17,600	\$ 3,300	\$ 0	\$ 10,600	\$ 3,700
Validation	\$ 12,600	\$ 0	\$ 0	\$ 0	\$ 12,600
TOTALS	\$ 97,000	\$ 36,600	\$ 33,500	\$ 10,600	\$ 16,300

DIMENSIONAL MANAGEMENT	Grand Total	2000	2001	2002	2003
Plan	\$ 67,000	\$ 0	\$ 67,000	\$ 0	\$ 0
Core Products	\$ 1,200	\$ 300	\$ 300	\$ 600	\$ 0
Validation	\$ 6,000	\$ 2,000	\$ 1,000	\$ 3,000	\$ 0
TOTALS	\$ 74,200	\$ 2,300	\$ 68,300	\$ 3,600	\$ 0

MANUFACTURING PROCESS	Grand Total	2000	2001	2002	2003
Plan	\$ 11,300	\$ 6,000	\$ 0	\$ 0	\$ 6,300
Core Products	\$ 3,160	\$ 3,160	\$ 0	\$ 0	\$ 0
Analysis + Design Aids	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Validation	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
TOTALS	\$ 14,460	\$ 9,160	\$ 0	\$ 0	\$ 6,300

P15 29

Timing – Program Management Business Plan

2 HTP/6324240

 File Edit View
 Go Back → →
 Address http://s

 PMS
 USER
 OPS
☐ Plan
☐ Creation Product
☐ Validation
☐ Report

 PROJECT: Software Configuration
 CREATION: 3/7/2001
 ANALYSIS / DESIGN AD: 3/7/2001
 YOUR ACCESS: READ WRITE
 GROUPS / ON/ OFF: Project Management

 PROJECT: SEASIDE 2000S
 ANALYSIS / DESIGN AD: 3/7/2001
 YOUR ACCESS: READ WRITE
 GROUPS / ON/ OFF: Project Management

 PROJECT TIMING UNITS: WEEKS
 STARTS: 03/01/2001
 ENDS: 03/31/2001

 QUESTION TYPE: DESCRIPTION DATE
 Review Meeting 3/7/2001
 Customer Meeting 3/7/2001
 Customer Meeting 3/7/2001

Time Zone Name	Version	Created By	Created Date	Save	Validate	Import/Export
Plan / Overview	1	1	3/1/2001			
Creation Product 1	1	1	3/1/2001			
Creation Product 2	1	1	3/1/2001			
Creation Product 3	1	1	3/1/2001			
Creation Product 4	1	1	3/1/2001			
Creation Product 5	1	1	3/1/2001			
Validation	1	1	3/1/2001			
Implementation	1	1	3/1/2001			

FIG 30

1.2.1 Background

- 3 System Administration
 - 4 Opportunity Profiles
 - 5 Program Plan
 - 1 Business Strategy
 - 2 Product Description
 - 3 Overview and Information
 - 4 Questions
 - 5 Revision Request
 - 6 Preliminary Plan
 - 7 Request Documents
 - 8 Program Issues
 - 9 Miscellaneous Documents
 - 10 Program Management
 - 11 Supply Management
 - 12 Timing / Scheduling
 - 13 Opportunity Forecast
 - 14 Product Design
 - 15 Internal
 - 16 Process Design

This should be a direct download from 2 areas:

- Opportunity Profile
 - 1. Create
 - 1 Overview Data
 - 2 Product Opportunity (Scope/Description)
 - 3 Program Definition Summary
 - 4 Product Description

EDIT ADD NEW DELETE

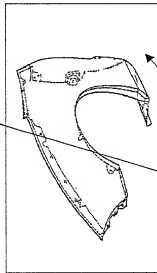


Product Opportunity

The product to be designed is the left and right fenders for the Chrysler Q Van. The product is to be designed as a vehicle part that will be used with seats and seat belts. The product is to be designed for a typical sized fender. The approximate volume is 80,000 vehicles per year for the 2005 - 2012 time period.

Product Description

The product to be designed and produced is a vehicles front fenders. Its purpose is to cover the structure of the front of the vehicle, shield the front of the vehicle from the outside elements, provide an aesthetically pleasing appearance, and provide protection to the components under the fender.



With the user changing or adding more info

FIG 31A

1.2.2 Knowns

- ☐ System Administration
- ☐ Summary Reports
- ☐ Security Privileges
- ☐ Setup Data
- ☐ 1 Program Plan
- ☐ 2 Product Description
- ☐ 3 Objectives
- ☐ 4 Preliminary Plan
- ☐ 5 Knowns
- ☐ 6 Preliminary Requirements
- ☐ 7 Required Documents
- ☐ 8 Program Trace
- ☐ 9 Milestones Document
- ☐ 10 Program Management
- ☐ 11 Supplier Management
- ☐ 12 Timing / Scheduling
- ☐ 13 Product Design
- ☐ 14 Dimensions
- ☐ 15 Product Design

EDIT ADD NEW DELETE



CATEGORY ▼	
Business	Enter the knowns. A known is an item that has not been established as a Given or a Requirement.
Business	100000 Vehicles/year with 20% service margin
Business	To be manufactured at the Grand Rapids molding facility
Business	Non-sequenced parts
Manufacturing	1000 ton press scheduled
Manufacturing	Simple mold - no lifters
Manufacturing	To be delivered unpainted to customer
Manufacturing	No cooling fixtures budgeted for parts
Product	General profile tolerance of +/- 0.1 mm
Product	Material SMC or flex SMC
Product	Must meet dent resistance of 500 mj
Product	One-piece construction preferred, no bonded parts

BIG 313

1.2.3 Questions

- ☐ System Administration
- ☐ Customer Support
- ☐ Opportunity/Probes
- ☐ 0 Setup Sheet
- ☐ 1 Program Plan
- ☐ 2 Business Strategy
- ☐ 2 Product Description
- ☐ 2 Background Information
- ☐ 2 Knowns
- ☐ 3 Questions / Map
- ☐ 4 Resolution Request
- ☐ 5 Financials
- ☐ 6 Financial Documents
- ☐ 7 Manufacturing Documents
- ☐ 8 Manufacturing Systems
- ☐ 4 Program Management
- ☐ 5 Sales Management
- ☐ 6 Being / Schedule
- ☐ 7 Business / Financial
- ☐ 2 Product Design
- ☐ 3 Dimensional
- ☐ 1 Product Design

- ☐ BUSINESS QUESTIONS
- ☐ PRODUCT QUESTIONS
- ☐ DIMENSIONAL QUESTIONS
- ☒ MANUFACTURING QUESTIONS
- ☐ ALL QUESTIONS

Point and Click

To Get

ANSWER

DELETE

ADD NEW

EDIT

1.2.3 Questions This section is for persons *outside* Product Description to query Product Description about information required to complete their section of the program plan. Enter questions that affect your relevant area.

1) Id. 06: One of the scaled verbal goals is not to use multiple parts but rather one-piece construction. How do you plan to do this with the checked conditions found on the part? I'm worried you will have to violate our manufacturing knowns of no filters in the molds.

Question Submitted by: Bob Dyer (Manufacturing) 01/18/2000
 Answer: Bob: There are 2 materials choices, RIM or SMC. Or SMC, there are 4 types of flex and non-flex. Depending on the amount of die, we can have 4 types of flex and non-flex. We can have 4 types of flex and non-flex to allow the part to be peeled off the mold. Of course, if needed, I may have to violate one of my knowns, no multiple parts. We can always add piece cost at the expense of filter cost and maintenance by bonding the part to the mold. We can have 4 types of flex and non-flex in the direction, we will know the optimum way to go.

Answer Submitted by: Lisa Jennings (Product Design) 1/20/2000

Add New Question : Add Question

Edit Question: Select Id :

The answer button will only appear for the person who owns the product section.

The add new question button will appear for everyone else.

1/19 3/10

1.2.4 Preliminary Plan

- ☒ System Administration
- ☒ Summary Reports
- ☒ Opportunity / Trades
- ☒ Setup Sheet
- ☒ Program Plan
- ☒ Preliminary Plan
- ☒ Product Description
- ☒ Background Information
- ☒ X-views
- ☒ 1 Preliminary Plan
- ☒ 2 Resolution Required
- ☒ 3 Final Plan
- ☒ 4 Preliminary Plan
- ☒ 5 Resolution Required
- ☒ 6 Final Plan
- ☒ 7 Preliminary Plan
- ☒ 8 Program Issues
- ☒ 9 Miscellaneous Documents
- ☒ 10 Manufacturing Systems
- ☒ 11 Program Management
- ☒ 12 Manufacturing
- ☒ 13 Timing / Scheduling
- ☒ 14 Business / Financial
- ☒ 15 Product Design
- ☒ 16 Product Design
- ☒ 17 Product Design
- ☒ 18 Product Design
- ☒ 19 Product Design
- ☒ 20 Product Design
- ☒ 21 Product Design
- ☒ 22 Product Design
- ☒ 23 Product Design
- ☒ 24 Product Design
- ☒ 25 Product Design
- ☒ 26 Product Design
- ☒ 27 Product Design
- ☒ 28 Product Design
- ☒ 29 Product Design
- ☒ 30 Product Design
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- ☒ 32 Product Design
- ☒ 33 Product Design
- ☒ 34 Product Design
- ☒ 35 Product Design
- ☒ 36 Product Design
- ☒ 37 Product Design
- ☒ 38 Product Design
- ☒ 39 Product Design
- ☒ 40 Product Design
- ☒ 41 Product Design
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- ☒ 99 Product Design
- ☒ 100 Product Design

Preliminary Plan:

The purpose of the preliminary plan is to provide basic information about the product that will be used to determine the overall business viability of the project. After key milestones, the preliminary plan becomes the final plan and portions of the plan are copied into section 2.0, product design. The preliminary plan consists of the following:

1.2.4.1 - Product Concepts - word descriptions with sketches, pictures or links to other web sites that help describe the basics of the product

1.2.4.2 - Product Content - description of the overall product variations or options that need to be manufactured

1.2.4.3 - Bill of Material - The parts list with the hierarchy of the assembly structure for the product

1.2.4.4 - Alternate Strategies - Specific themes or descriptions of key initiatives within the product design that may affect the development of the product design. Examples may include material strategies, service strategies, or shipping strategies.

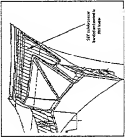

1.2.4.5 Product Performance Criteria - Word descriptions with or without graphs or sketches that describe the requirements of the product.

Fig 31D

12.4.1 Product Concepts

- ☐ System Administration
- ☐ Opportunity To-Do's
- ☐ 0 Setup Sheet
- ☐ 1 Program Plan
- ☐ 2 Product Description
- ☐ 3 Background Information
- ☐ 4 Drawings
- ☐ 5 Materials
- ☐ 6 Financial Plan
- ☐ 7 Required Documents
- ☐ 8 Manufacturing Systems
- ☐ 9 Program Management
- ☐ 10 Customer Support
- ☐ 11 Training / Scheduling
- ☐ 12 Business / Financial
- ☐ 13 Product Design
- ☐ 14 Product Development
- ☐ 15 Product Design

EDIT ADD NEW DELETE

TITLE	IMAGE	DESCRIPTION
SMC GUSSET FOR REAR UPPER CORNER STIFFNESS		NO ATTACHMENT, ADD STIFFENING GUSSET
METAL GUSSET FOR REAR UPPER CORNER STIFFNESS		ADD METAL BRACKET TO FENDER THAT WILL BECOME ASSEMBLY DATUM

The EDIT, ADD NEW, and DELETE buttons will only appear for the people defined by the responsibility matrix. The radio buttons to the left of the table will choose the row to be modified

FIG 31E

1.2.4.2 Product Content

- ☒ 3 System Administration
- ☒ 4 Security Reports
- ☒ 5 System Configuration
- ☒ 6 Setup Sheet
- ☒ 7 Program Plan
- ☒ 8 Business Strategy
- ☒ 9 Business Plan
- ☒ 10 Business Information
- ☒ 11 Business Information
- ☒ 12 Business Information
- ☒ 13 Business Information
- ☒ 14 Business Information
- ☒ 15 Business Information
- ☒ 16 Business Information
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- ☒ 98 Business Information
- ☒ 99 Business Information
- ☒ 100 Business Information

EDIT  ADD NEW  DELETE 

TITLE	DESCRIPTION
FENDER MOLDING OPTIONS	*Two levels of firm will be used on the fenders. One with a spear molding and one without. The molding will be a 20-40% option and will match a spear molding found on the door and rear quarter.
OPTIONAL COLORS	*The fenders will be painted at the vehicle assembly plant with 10 optional colors. Some colors will be light and may require a lighter primer to prevent read through.
SURFACE QUALITY TARGETS	*The outer surface will be class A and require an orange peel level below 20 OPL. The gloss level is expected to match the rest of the surface imperfections.
FENDER AIR DUCTING	*The fenders should have the ability to allow airflow into the brake area for brake cooling. There should be a decorative bezel surrounding the cooling inlet.

FIG 31F

1.2.4.3 Bill of Material

- 3) System Administration
 - 3) Summary Reports
 - 3) Configuration Rules
 - 3) Setup Data
- 4) 1 Program Plan
 - 4) 1 Business Strategy
 - 4) 2 Product Description
 - 4) 3 Product Information
 - 4) 4 Questions
 - 4) 5 Preliminary Plan
 - 4) 6 Preliminary Review
 - 4) 7 Final Plan
- 5) 8 Program Issues
 - 5) 9 Product Development Documents
 - 5) 10 Manufacturing Systems
 - 5) 11 Program Management
 - 5) 12 Supplier Management
 - 5) 13 Timing Scheduling
 - 5) 14 Product Results
 - 5) 15 Product Design
 - 5) 16 Dimensional
 - 5) 17 Product Design



ADD BOM
DETAILS

To get
blue area
that can be
changed



CHANGE
BOM
STRUCTURE

To get
blue area
that can be
changed

UPC CODE	FMA CODE	PRN CODE	PRST CODE	PRST DESC	PRST QTY	CHARGE NUMBER	ASM STA	ASSY NST	BUILD MODEL	REL CODE	ENGR NAME	MGR NAME	ENGR NAME	ENGR NAME
B55	219	1E107	AV	END	2003	1035545	335	###	1035545	1035545	STON	SMITH		

THE PROGRAM LAUNCHED WOULD BE EXCEL FOR EXAMPLE WHERE
ADDITIONAL COLUMNS AND TITLES CAN BE ADDED.

THE ABOVE EXAMPLE IS THE BOM COLUMN TITLES USED BY AN OEM:

Fig 316

1.2.4.4 Product Strategies

- ☒ System Administration
- ☒ Summary Reports
- ☒ Opportunity Profiles
- ☒ Setup Sheet
- ☒ 1 Business Strategy
- ☒ 2 Product Description
- ☒ 3 Production
- ☒ 4 Questions
- ☒ 5 Preliminary Plan
- ☒ 6 Resolution Request
- ☒ 7 Preliminary Documents
- ☒ 8 Program Issues
- ☒ 9 Miscellaneous Documents
- ☒ 10 Manufacturing System
- ☒ 11 Supplier Management
- ☒ 12 Training / Scheduling
- ☒ 13 Business / Financial
- ☒ 14 Design
- ☒ 15 Innovation
- ☒ 16 Process Design

EDIT ADD NEW DELETE



TITLE	DESCRIPTION
MATERIAL STRATEGY	There are three candidates for materials for the front fender. They are SMC, Flex SMC, and RIM. The leading candidate is SMC due to it's low cost and high stiffness. If a die lock condition exists, where the part will have to be peeled off a mold, then Flex SMC may be an alternative. If the die lock is more severe, then RIM may be used. The cost and lack of dimensional stability for RIM is not as attractive as SMC or Flex SMC, therefore an alternative may be SMC with the die locked part bonded to the fender to become an assembly. This violates the part strategy of having one part without multiple pieces for the fender.
PART STRATEGY	The main strategy for parts is that there is one part - a plastic fender. The fender should be without additional brackets or reinforcements. If this is not possible, then minimizing the brackets that attach the fender to the vehicle is imperative.
TOOLING STRATEGY	SMC molds without lifters is the main tooling strategy. If a die lock condition, then the complexity of the lifter should be weighed against the additional parts that must be added to the fender.
SERVICE STRATEGY	Normal conventional tools for service is the service strategy. The fender should not require special tools for repairing a damaged front vehicle. And the fender itself should be repairable with standard body shop repair materials.

AG 3/14

1.2.4.5 Product Performance Criteria

- System Administration
- Summary Reports
- Opportunity/Probes
- Product Analysis
- Program Plan
- 1 Dashboard Strategy
- 2 Product Description
- 3 Background Information
- 4 Questions
- 5 Preliminary Plan
- 6 Resolution/Procedures
- 7 Required Documents
- 8 Program Issues
- 9 Miscellaneous Documents
- 10 Product Design Systems
- 11 Program Management
- 12 Shipping / Scheduling
- 13 Product Design
- 14 Environmental
- 15 Process Design

- MAJOR PERFORMANCE REQUIREMENTS
 - SUB-SYSTEM PERFORMANCE REQUIREMENTS
 - COMPONENT PERFORMANCE REQUIREMENTS
 - OTHER REQUIREMENTS
- Point and Click
- To Get

EDIT ADD NEW DELETE

CATEGORY ▼	
Durability	The fenders shall withstand 100,000 miles or 10 years
Durability	No cracks or imperfections from hail or stone impingement test
Durability	No damage from hood and door slam test
Serviceability	Replace with standard tools and no fixtures
Serviceability	Repair with standard auto body materials
Serviceability	Sand, Prime, and paint with standard auto body materials
Warranty	IPTV target of 3.0 or less
Warranty	No JD Power complaints
Weatherability	Shall pass xenon weatherability exposure test

- ☐
- ☐
- ☐
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- ☒
- ☐
- ☐
- ☐
- ☐

FIG 31L

- ☐ System Administration
- ☐ Summary Reports
- ☐ Opportunity Profiles
- ☐ Setup Sheet
- ☐ Program Plan
- ☐ Business Strategy
- ☐ Product Description
- ☐ Background Information
- ☐ Knowledge
- ☐ Questions
- ☐ Preliminary Plan
- ☐ Resolution Required
- ☐ Final Plan
- ☐ Related Documents
- ☐ Miscellaneous Issues
- ☐ Miscellaneous Documents
- ☐ Manufacturing Systems
- ☐ Management
- ☐ Sales Management
- ☐ Training / Scheduling
- ☐ Business / Financial
- ☐ Product Design
- ☐ Personnel
- ☐ Decisional

1.2.5 Major Issues

- ☐ BUSINESS ISSUES
- ☒ PRODUCT ISSUES
- ☐ DIMENSIONAL ISSUES
- ☐ MANUFACTURING ISSUES
- ☐ ALL ISSUES

Point and Click

To Get

AP2-I-A1-A	REDUCE BUDGET BY \$50K
AP2-I-A2-A	DIE LOCK CONDITION FORCES BONDED PART

Point and Click

To Get

ADD NEW ISSUE



All users will get this button which will allow anyone to input a major issue to the right area

REQUEST # A2/LATA	MAJOR ISSUE
ASSIGNED TO NAME,	JOE SMITH - ANALYSIS - 248-485-5303
ASSIGNED TO PHONE,	
ASSIGNED TO FAX, EMAIL,	
ISSUE DESCRIPTION	REDUCE BUDGET BY \$50K
DATE INITIATED	8/1/00
INDEXED REASON LEVEL	
OF REQUEST #	
INITIATED BY NAME,	DOUG FINCH - FINANCIAL - 248-465-3697
INITIATED BY PHONE,	
INITIATED BY FAX, EMAIL,	
DATE RESPONSE	9/15/00
ESTIMATED DATE	10/1/00
RESPONSE WILL BE	
ENTERED	
DATE OF RESPONSE	
DESIGNED FOR REQUEST	REDUCE BUDGET BY \$50K
STATUS UPDATES	MEET CORPORATE FINANCIAL GOALS WOULD OBTAIN 11/1/00
PROPOSED RESOLUTION	
APPROVER NAME	APPROVED
DATE OF APPROVAL	APPROVED
APPROVER NAME	APPROVED

The assignee of this major issue will have the update button appear on their screen. No one else will have the ability to change this screen

UPDATE



Fig 9/5

12.6 Final Plan

- ☐ System Administration
- ☐ Summary Reports
- ☐ Opportunity Profiles
- ☐ Opportunity Issues
- ☐ Program Plan
- ☐ 1 Business Strategy
- ☐ 2 Product Description
- ☐ 3 Background Information
- ☐ 4 Knowns
- ☐ 5 Questions
- ☐ 6 Preliminary Plan
- ☐ 7 Resolution Required
- ☐ 8 Final Plan
- ☐ 9 Residual Documents
- ☐ 10 Manufacturing Systems
- ☐ 11 Program Management
- ☐ 12 Supplier Management
- ☐ 13 Timing / Scheduling
- ☐ 14 Business / Financial
- ☐ 15 Product Design
- ☐ 16 Dimensional
- ☐ 17 Process Design

- ☐ System Administration
- ☐ Summary Reports
- ☐ Opportunity Profiles
- ☐ 0 Setup Sheet
- ☐ 1 Program Plan
- ☐ 2 Business Strategy
- ☐ 3 Product Description
- ☐ 4 Background Information
- ☐ 5 Knowns
- ☐ 6 Questions
- ☐ 7 Preliminary Plan
- ☐ 8 Resolution Required
- ☐ 9 Final Plan
- ☐ 10 Residual Documents
- ☐ 11 Manufacturing Systems
- ☐ 12 Program Management
- ☐ 13 Supplier Management
- ☐ 14 Timing / Scheduling
- ☐ 15 Business / Financial
- ☐ 16 Product Design
- ☐ 17 Dimensional
- ☐ 18 Process Design

This section disappears at a point in time and becomes the final plan

FIG 31K

1.2.7 Misc. Documents

- ☒ System Administration
- ☒ Summary Reports
- ☒ Training Materials
- ☒ 0 Site Visit
- ☒ 1 Program Plan
- ☒ 2 Business Strategy
- ☒ 3 Product Description
- ☒ 4 Financial Information
- ☒ 5 Questions
- ☒ 6 Preliminary Plan
- ☒ 7 Final Plan
- ☒ 8 Requested Documents
- ☒ 9 Program Issues
- ☒ 10 Miscellaneous Documents
- ☒ 11 Manufacturing Systems
- ☒ 12 Program Management
- ☒ 13 Supplier Management
- ☒ 14 Engineering Support
- ☒ 15 Finance Management
- ☒ 16 Product Design
- ☒ 17 Operational
- ☒ 18 Process Design

All users will get this button which will allow anyone to add a misc. document.

MISC. DOCUMENTS
VIRTUAL ENGINEERING TOOLS
QUALITY FUNCTION DEPLOYMENT

ADD NEW DOCUMENT

To Get

Quality function deployment:
described quality control

OR



A COPY OF THE DOCUMENT STORED IN THE PDS PROGRAM

<http://techqual.org.qfd>

A LINK TO A DOCUMENT STORED ELSEWHERE ON THE WEB

Fig. 316

10944151020000

1.2 Product Description

1.2.1 Background Information

1.2.2 Drawings

1.2.3 Questions

1.2.4 Part

1.2.5 Product Code

1.2.6 Product Code

1.2.7 Product Code

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Fig. 32